

## QUANTIFYING FLASH RADIOGRAPHIC PROBES OF HYDRODYNAMICS(U)

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Flash radiographic imaging of hydro experiments is a useful source of validation and verification for hydro code systems. Comparisons of theoretical predictions and experiments can be made with radiographs, or tomography can be used on the experimental image in order to compare density profiles. In either case such quantitative comparisons require greater skill at simulating the systematic phenomena of radiography, such as collimation, imperfect alignment, detector performance, source characteristics, and contamination from scattering and noise. Such skills are also necessary for optimizing the design of radiographic facilities and experiments. We report on our efforts to build these radiographic design tools. We show the application of these tools to several problems. We also discuss how these tools are being used to study MeV photon and GeV proton radiography. (U)

\*This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under contract No. W-7405-Eng-48.